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ERTS PROJECT 110-8

N73-32226

(E73-11050) SEA, ICE AND SURFACE WATER
CIRCULATION, ALASKAN CONTINENTAL SHELF
Bimonthly Progress Report (Alaska Univ.^{er})
Fairbanks.) 5 p HC \$3.00

Unclassified
01050
G3/13

A. TITLE OF INVESTIGATION: Sea, Ice and Surface Water Circulation,
Alaskan Continental Shelf

B. PRINCIPAL INVESTIGATOR/GSFC ID: G. D. Sharma, F. F. Wright,
J. J. Burns/UN683

C. PROBLEMS IMPE DING INVESTIGATIONS: None

D. PROGRESS REPORT:

1. Accomplishments during reporting period: Over 1,000 sea water samples were filtered for sediment load distribution in surface waters of Shelikof Strait, the Gulf of Alaska, the Bering Sea including Bristol and Kuskokwim Bays, Norton Sound, and the Chukchi Sea. Salinity-temperature-depth profiles were obtained at selected stations. Surface water samples from Cook Inlet were also collected for synchronous ground truth.

Sample collection was conducted on board the R/V OSHORU MARU during June, R/V ACONA during July-August, and R/V ALFA HELIX during August-September at no cost to the project.

2. Plans for next reporting period: The field data is presently being processed. The density slicing of imagery from various regions will also be performed.

E. SIGNIFICANT RESULTS: Selected ERTS-1 imagery was subjected to density slicing using VP-8 color density slicing equipment. Results to date indicate that routine density slicing can be performed on 70 mm negatives and variations in the suspended load concentration in the surface water can be delineated by the various color bands assigned. Typical results of density slicing can be seen by comparison between the dodged and color density sliced imagery in Cook Inlet (Fig. 1). Selection of the negative or positive for density slicing is generally controlled by the suspended load concentration, sun angle and, in general, the gray density distribution of the image. The negative image has provided the best results, particularly in MSS Bands 5-7. The 70 mm format appears to be adequate and provides results comparable to 9"x9" positive transparencies.

F. PUBLICATIONS: None

H. CHANGES IN STANDING ORDER FORMS: None

I. ERTS IMAGE DESCRIPTOR FORMS: Attached

J. DATA REQUEST FORMS: August 31, 1973, data received

Original photography may be purchased from
EROS Data Center
10th and Dakota Avenue
Sioux Falls, SD 57198

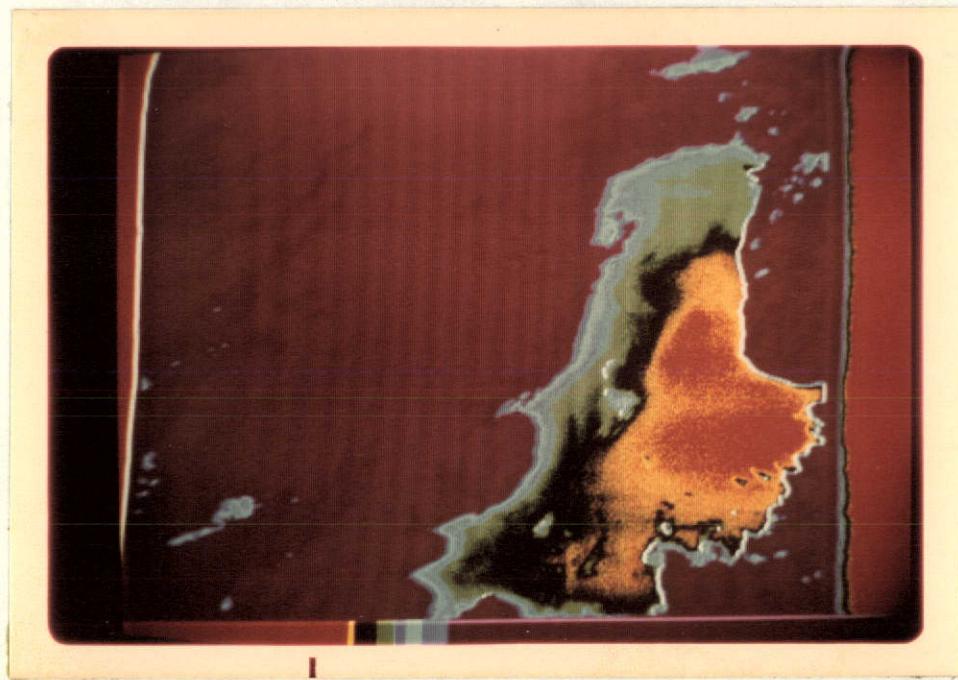


Figure 1. MSS Band 5 image of Cook Inlet (I.D. 1266-20581) dodged black and white print (above) and VP-8 color density slice (below).

ERTS IMAGE DESCRIPTOR FORM

(See Instructions on Back)

DATE September 30, 1973NDPF USE ONLY
D _____
N _____
ID _____PRINCIPAL INVESTIGATOR G. D. SharmaGSFC UN 683ORGANIZATION University of Alaska

PRODUCT ID (INCLUDE BAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS Ice Bay	
	Sediment plume	Coast	Estuary		
1266-20581-M	X	X	X		
1266-20584-4	X	X			
1266-20584-5	X	X			
1266-20584-6	X	X			
1267-21035-4	X	X	X		
1275-21483-4	X	X		X	X
1275-21483-5	X	X		X	X
1276-21542-4	X	X		X	X
1276-21542-5	X	X		X	X
1288-21212-M	X	X			Peninsula
1293-21482-4	X	X		X	X
1293-21482-5	X	X		X	X
1294-21550-4	X	X		X	
1294-21550-5	X	X		X	
1310-21423-4	X	X		X	X
1310-21423-5	X	X		X	X
1310-21425-4	X	X		X	
1310-21425-5	X	X		X	
1311-21481-4	X	X		X	X
1311-21481-5	X	X		X	X
1311-21484-M	X	X		X	

*FOR DESCRIPTORS WHICH WILL OCCUR FREQUENTLY, WRITE THE DESCRIPTOR TERMS IN THESE COLUMN HEADING SPACES NOW AND USE A CHECK (✓) MARK IN THE APPROPRIATE PRODUCT ID LINES. (FOR OTHER DESCRIPTORS, WRITE THE TERM UNDER THE DESCRIPTORS COLUMN).

MAIL TO ERTS USER SERVICES
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BLDG 23 ROOM E413
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301-982-5406

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ID _____PRINCIPAL INVESTIGATOR G. D. SharmaGSFC UN 683ORGANIZATION University of Alaska

PRODUCT ID (INCLUDE BAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*				DESCRIPTORS Bay
	Sediment plume	Coast	Estuary	Ice	
1311-21490-M	X	X		X	
1328-21422-M	X	X			X
1330-21525-M	X	X	X	X	
1330-21532-4	X	X	X	X	
1330-21532-5	X	X	X	X	
1334-22155-4	X	X		X	
1334-22155-5	X	X		X	
1334-22161-4	X	X		X	
1334-22161-5	X	X		X	Strait
1346-21420-M	X	X			X
1346-21423-M	X	X			X
1351-22102-M	X	X			Peninsula

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SEVENTH BIMONTHLY PROGRESS REPORT
UNIVERSITY OF ALASKA
ERTS PROJECT NO. 110-8
September 30, 1973

PRINCIPAL INVESTIGATOR: G. D. Sharma/F. F. Wright
TITLE OF INVESTIGATION: Sea, Ice and Surface Water Circulation,
Alaskan Continental Shelf.
DISCIPLINE: Marine Geology and Ecology
SUMMARY OF SIGNIFICANT RESULTS:

Salinity and temperature measurements in the Bering Sea indicate that the Yukon River outflow extends as far as 200 km from its mouth. The fresh water flow from the Yukon River flows north and east into Norton Sound.

Various levels of suspended sediment concentration in waters have been successfully color coded using a VP-8 color density slicing image analyser. The 70 mm negative transparencies have provided the best fit for the ground truth observations.